

Outline Summary/Demolition Methodology Gasholder Demolition & Gasholder Infilling

Bradford Road, Miles Platting, Manchester, M40 7BW



Prepared For

National Grid Properties

Prepared By

Erith Contractors Ltd

Project Reference

R12456 Bradford Rd GHD & GHI

Document Revision / Authorisation Record

Revision No	Prepared by Position Date	Authorised By Position Date	Details
01	Scott Hutson Site Supervisor 01/03/2023 	Matthew Balson Project Manager 01/03/2023 	Document Creation and Issue

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1.Scope of works

Erith contractors Ltd have been appointed by National Grid Properties to undertake the demolition and gasholder infilling works within the former gasholder compound located on Bradford Rd, Miles Platting Manchester, M40 7BW

The work comprises of an Ecology survey, Asbestos survey and removal, dewatering (under UU consent and EA deployment), desludging and dismantling works of one below ground column guided gasholder (referenced as GH no 2), the removal of redundant above ground pipework and a redundant boiler house and chimney. On completion of the internal gasholder demolition works, the gasholder void is to be infilled to match the current ground level surrounding the gasholder before the frame is demolished.

All foundations/below ground structures will remain in situ. All works will be undertaken within the site boundary.

Key Dates

Site access date: 05/06/2023

Commencement of demolition works: 04/09/2023

Commencement of Bulk infilling works: 29/01/2024

Site works completed: 27/06/2024

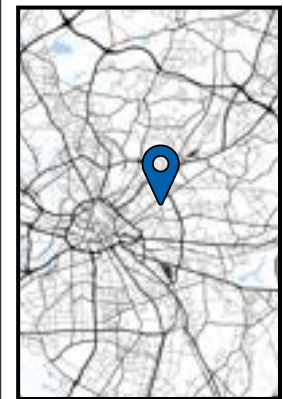
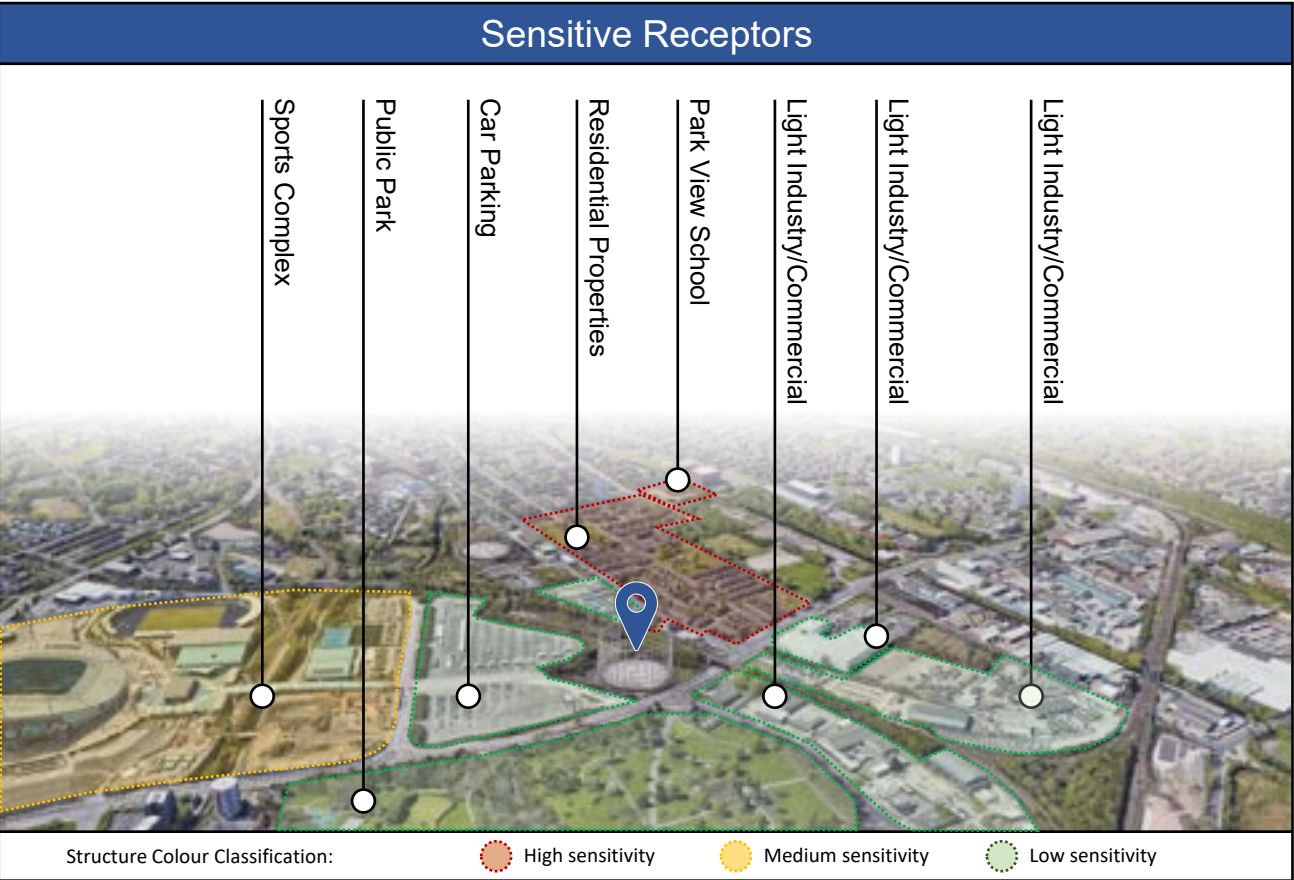
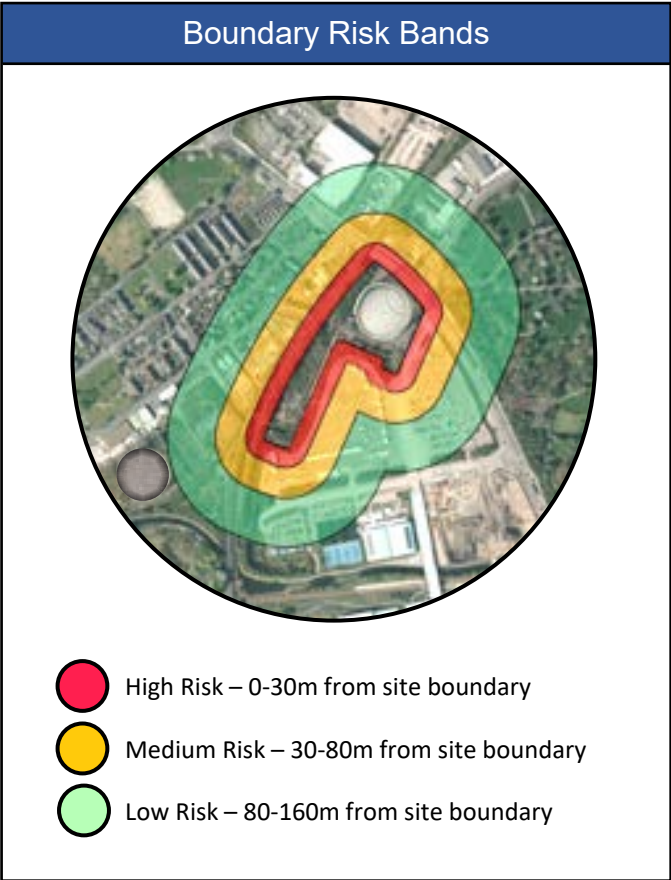
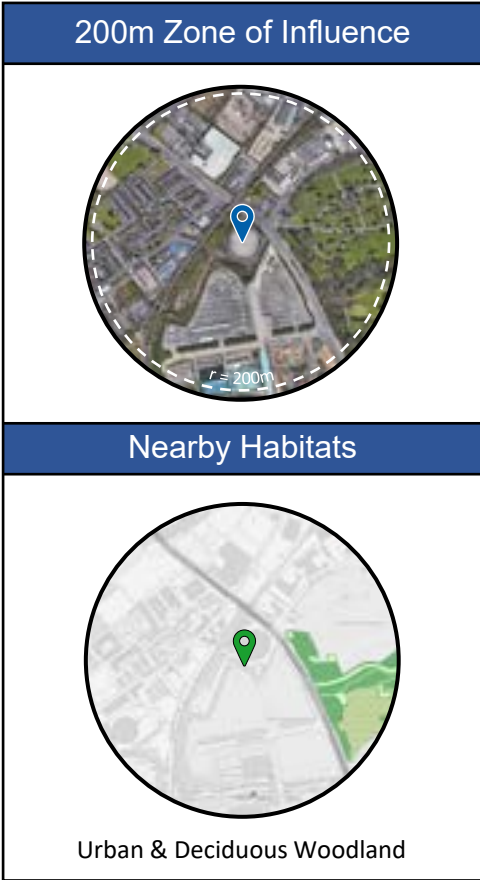
Site working hours

Monday – Friday: 08:00 – 17:30

Weekends/Bank Holidays:

No works

2. Environmental Management Plan



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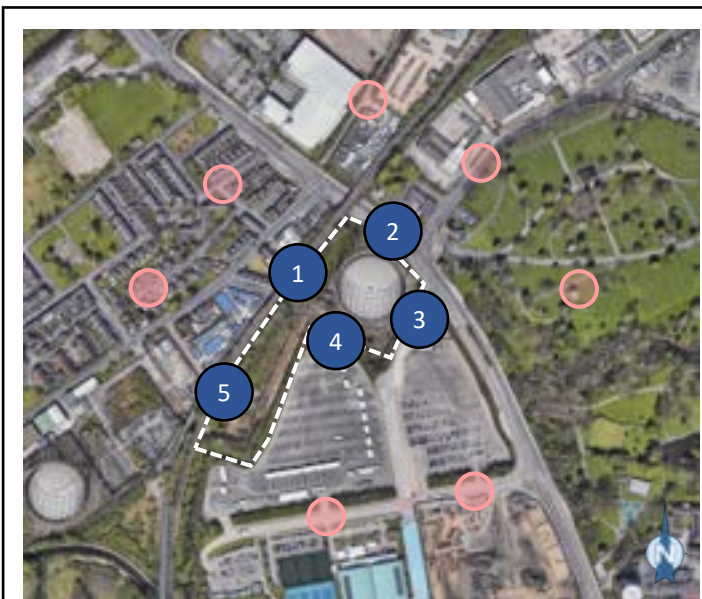
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Sensitive Receptor Risk Analysis

Bearing	Receptor	Sensitivity	Distance	Risk
Site	PRS & Gas Assets	High (Vibration)	0m	High
North	Light Industrial/Commercial	Low	30m	Low
East	Philips Park	Low	50m	Low
South	Car Parking	Low	30m	Low
South	Sports Complex	Medium	190m	Low
West	Residential Properties	High	60m	High
West	Light Industrial/Commercial	Low	60m	Low

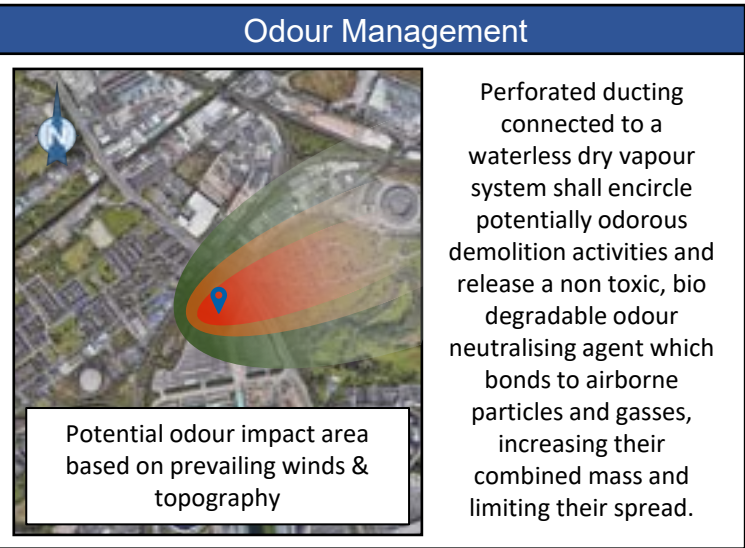


Monitoring Locations

1

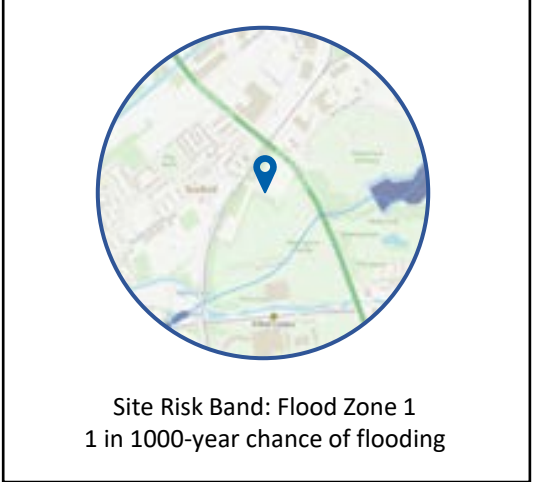
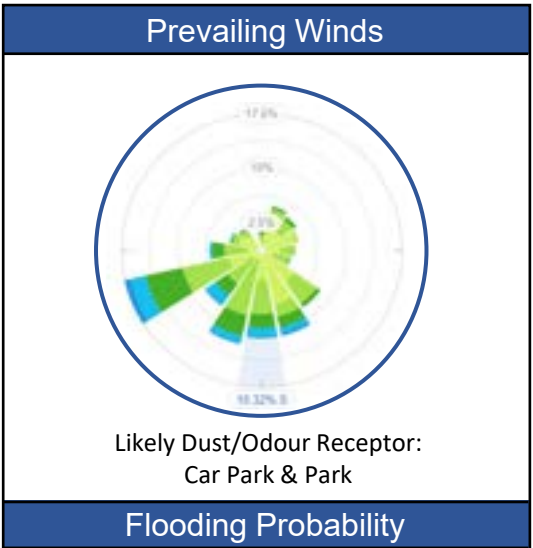
Numbered monitoring locations indicate where environmental monitoring equipment will be positioned. This will depend on the nature and location of the works as well as weather conditions such as prevailing winds

Non numbered locations indicate where additional smell tests and VOC readings shall be undertaken outside of the site boundary and downwind of odorous works.



Environmental Monitoring

RT = Real Time W = Weekly D = Daily	Monitoring Locations				
	1	2	3	4	4
Noise	RT	RT	RT	RT	RT
Dust	W	W	W	W	W
Odour	4/D	4/D	4/D	4/D	4/D
Vibration	RT	RT	RT	RT	RT
Asbestos	As required				
Tenex Tubes	As required				
Lead	As required				
Atmospheric	RT	RT	RT	RT	RT
Appearance	D	D	D	D	D



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Environmental
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3. Traffic Management Plan

Route Analysis

HGV traffic shall access the site from the M60 via the A62, A6010 Bradford Rd & Broxton St. LGVs may access the site through other routes. HGVs are to be staggered to avoid queuing outside of the project.

Stagecoach bus 74, 76, 703, 709, 722, 724, & 776 stop at the nearby bus stops. Manchester Piccadilly Station is a 30min walk.

The site is situated off a small residential street. The internal access road passes beneath a rail bridge with a clearance of 4.8m. The junction between Broxton and Radford Road is reasonably clear but does have the potential for visibility to be obstructed by parked vehicles.

A62 - Annual average daily traffic

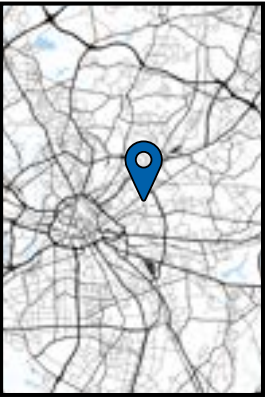
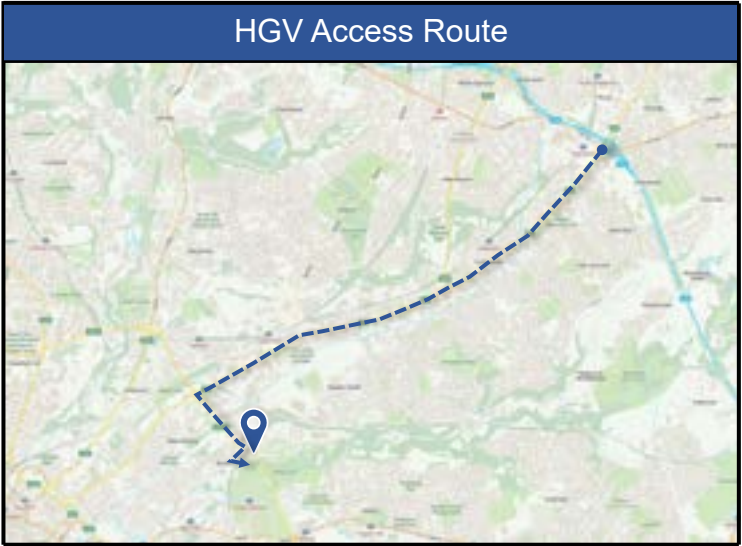
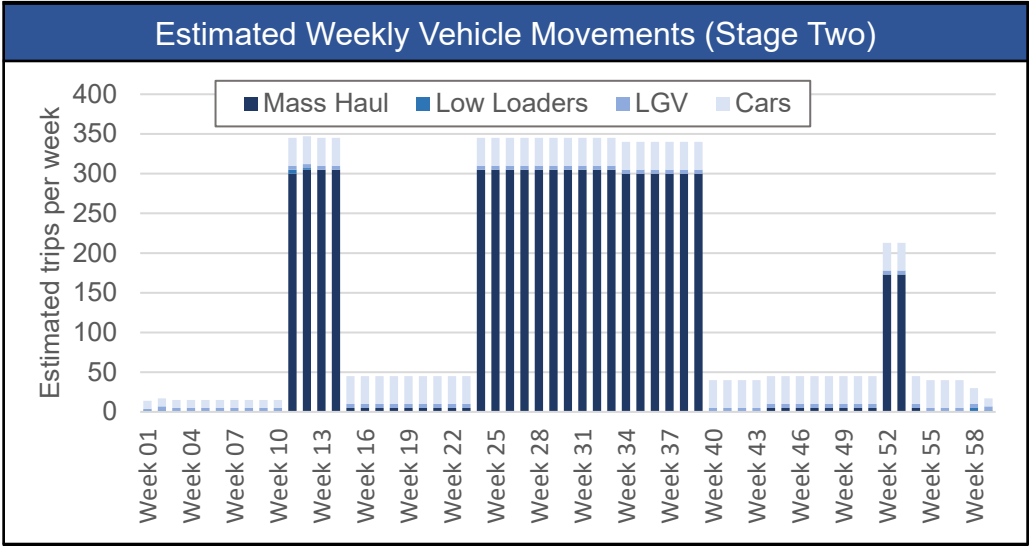
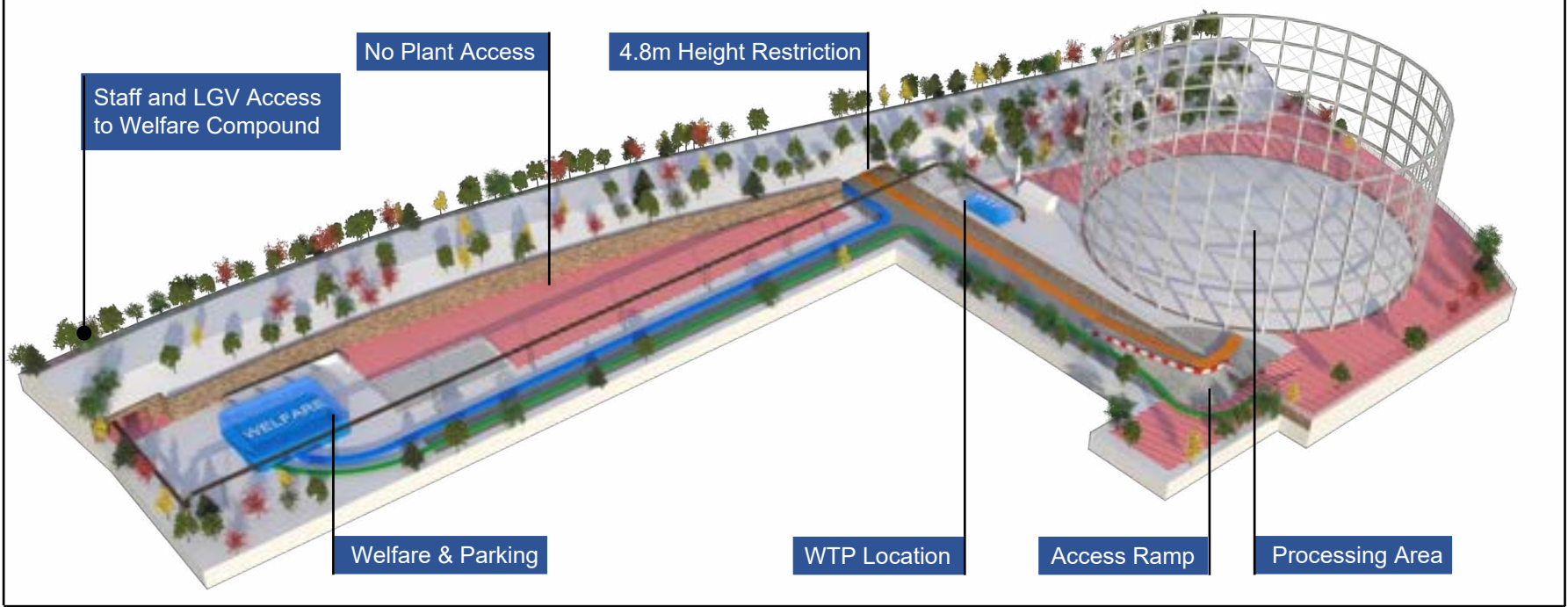
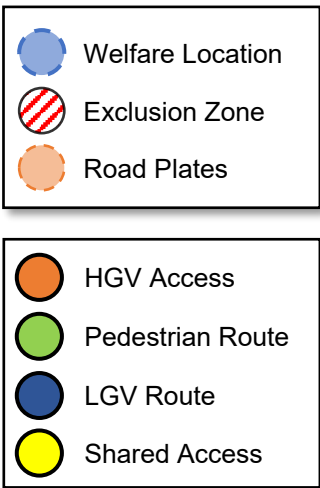
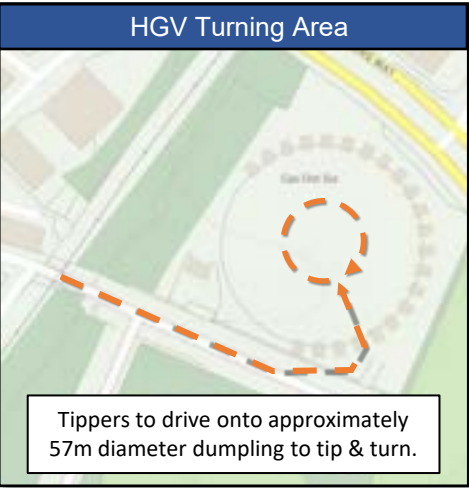
Bicycles	Motorbikes	Cars & Taxis	Bus & Coaches	Light goods vehicles	Heavy goods vehicles
219	95	17105	340	3076	800

Anticipated maximum additional daily HGV loading: 70 9% increase to HGVs, 0.2% total motor vehicles.

Traffic Analysis



Traffic Management & Site Layout



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4. Enabling Works & Ancillary Structures

Ancillary Works



Access Ramp

An access ramp and accompanying working platform is to be designed and installed from imported material to permit HGVs to access the raised gasholder compound whilst minimising the number of below ground gas assets crossed.



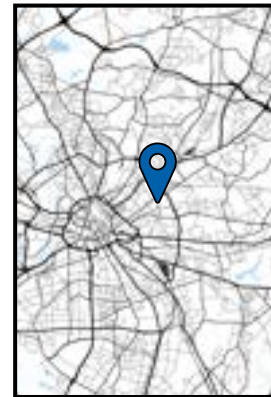
Overhead Pipework

The twin overhead pipes will be removed using a combination of an excavator and a MEWP. The excavator shall grip the section of pipework to be removed taking its weight. An operative working from a MEWP will then make a diagonal sit cut at each end of the section. Once the MEWP is clear of the lift area the excavator shall lift the section out and down. All lifts are to be suitable planned.



Boiler House & Chimney

The boiler house and chimney will be demolished by excavator using a multiprocessor. The chimney will be held and partially cut around the base before being folded over by the excavator.



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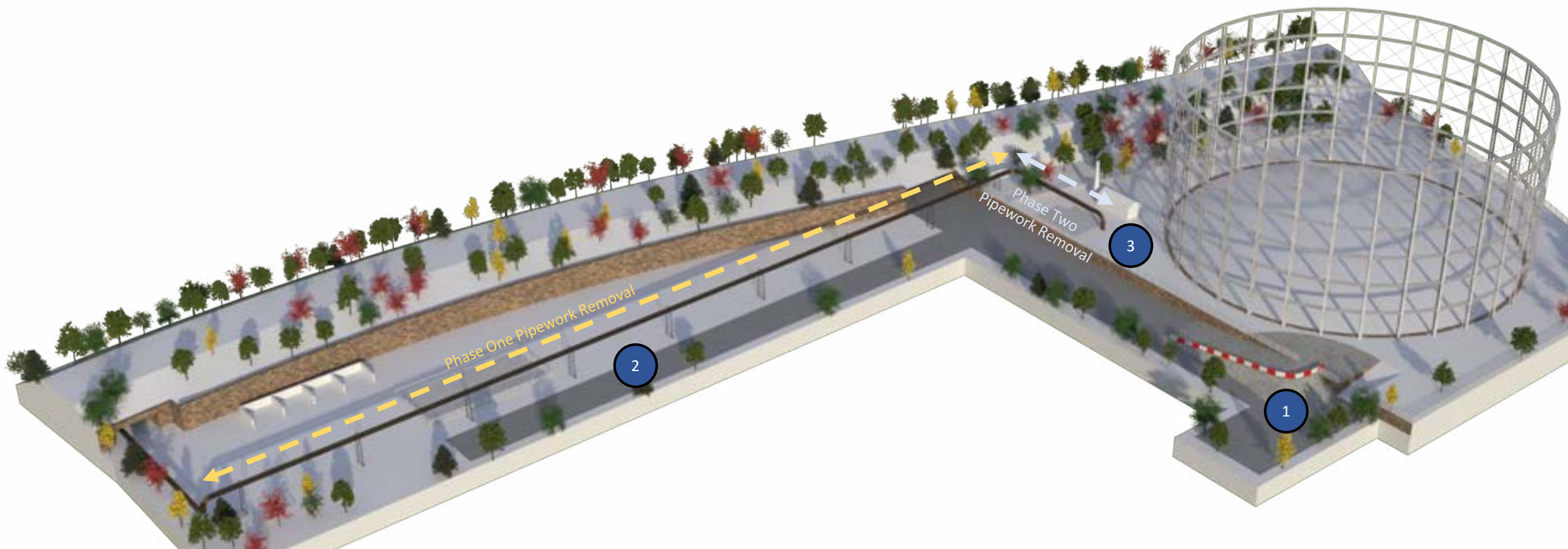
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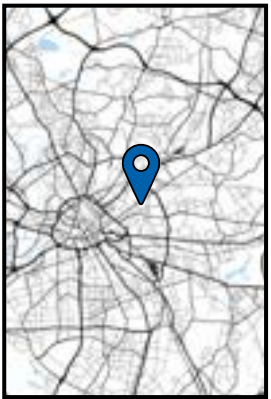
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5. Welfare Arrangements

Typical Welfare Facilities



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Welfare
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Parking

Reverse parking only. Charging facilities for electric crew shuttle. Cycle storage facilities will also be provided.

Notice Board / Fire Point

Site information, first aiders, fire marshals, emergency procedures are displayed here. Also houses ear plug dispenser, eye wash station, first aid kit and fire extinguishers.

Tool Store

To include a bunded, fire resistant, lockable COSHH stores. Internal lighting and smoke detectors to be fitted. Shelves to have maximum SWL marked.

BioSite Alarm

Wirelessly networked remote fire and medical emergency alarm system. Supports site zoning, audio and visual alarms, and mesh networking.

Staff Welfare

An outdoor seating area is to be created including greenery and covered areas. Initiatives such as 'Free Fruit Friday', a book share library scheme, and regular access to on site counselling will also be implemented.

Decontamination Unit

Decontamination unit with separate clean/dirty sections. Includes showers and boot wash as well as drying room facilities.

CCTV

Remote CCTV system to be installed. Vegetation will be trimmed back to ensure lines of sight along site boundaries.

Double Stacked Eco Drying Room & Canteen

Canteen – Fully furnished to CCS standard.
Drying Room – Including individual lockers with integrated USB charging points.

Double Stacked Eco Office & Meeting Room

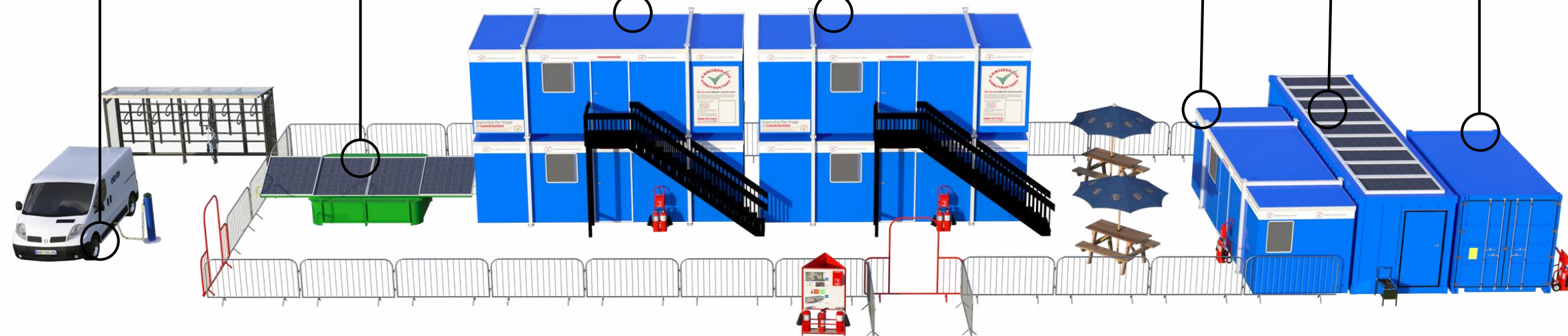
Office – Including BioSite hub and defibrillator.
Meeting Room – Combined Site Briefing / Induction & Meeting Room (40/60 split)

Hybrid Generator

If mains power is not available a hybrid solar assisted generator ensures that the generator only runs when required, by monitoring the load and providing silent power from its internal lithium battery whilst automatically stop/starting the diesel generator.

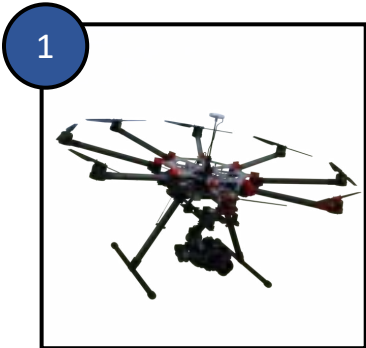
Toilets

Separate male & female toilets including shower facilities and hand care stations.



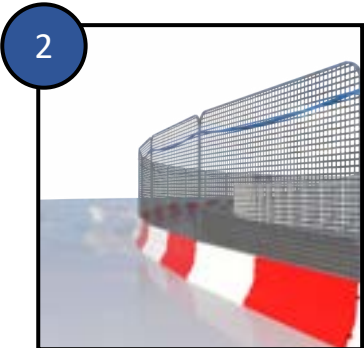
6. Demolition Methodology

Gas Holder No. 9 Demolition Sequence



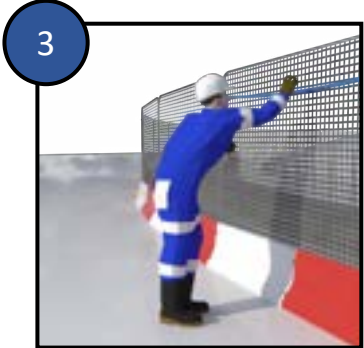
Drone Survey

The superstructure & crown is to be remotely inspected by a UAV equipped with a high definition camera to ascertain structural condition. The drone operator is to be insured for commercial work and registered with the Civil Aviation Authority



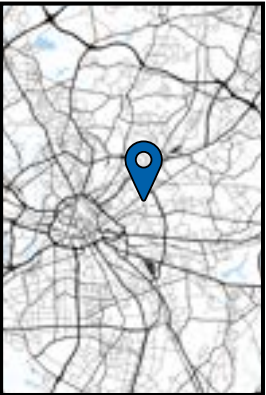
Fencing

Anti climb fencing will be installed a minimum of 2m from the lip of the gasholder tank perimeter. Fencing is to be double clipped and wind loading analysis carried out. Fencing will be recorded in the Temporary Works Register.



Odour Mitigation

Perforated 100mm ducting will be fastened to either the guide frame, or the perimeter fencing. A waterless, vapor-based odour suppressant system will be connected to the hose line and used throughout works likely to result in the release of odours.



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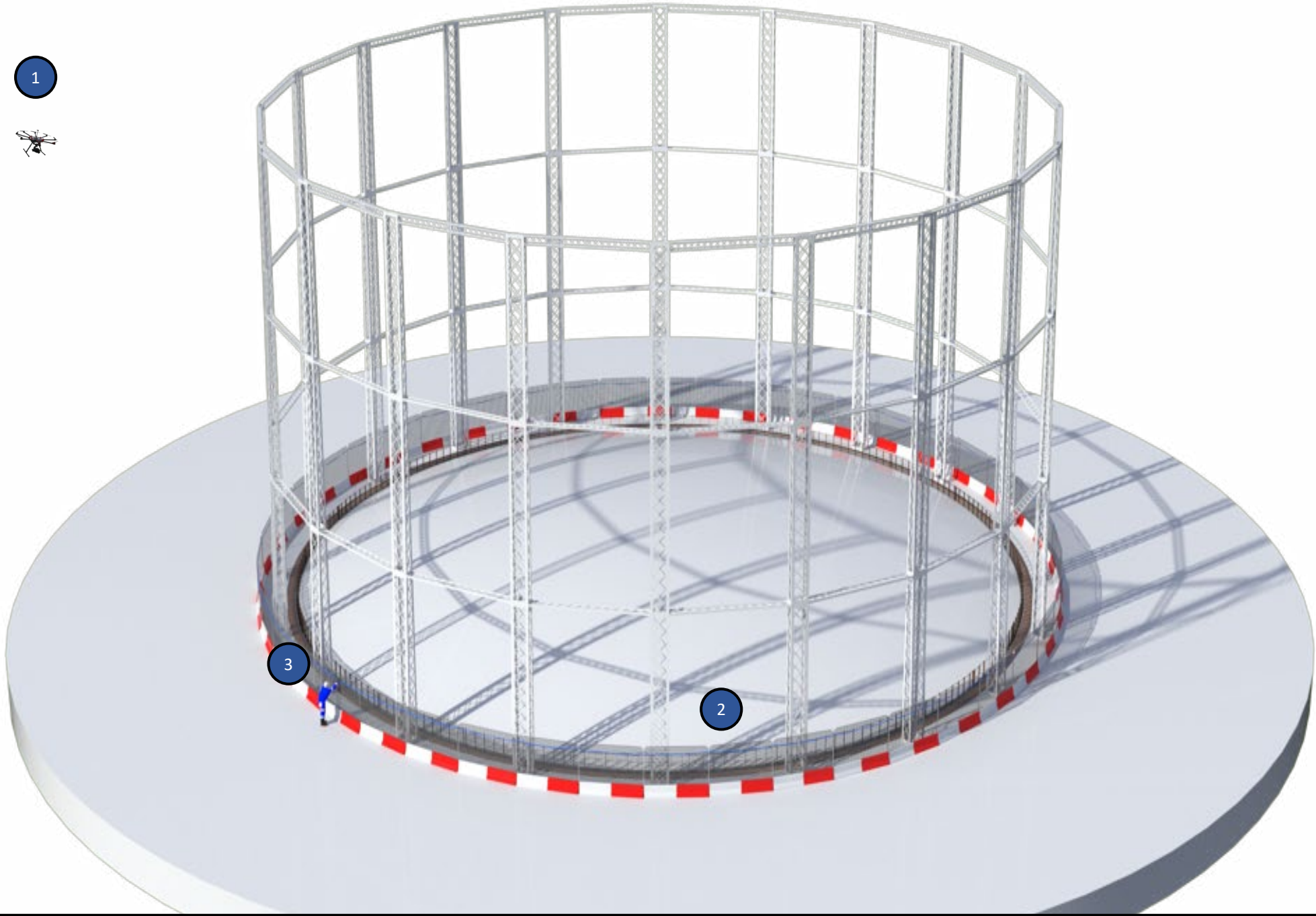
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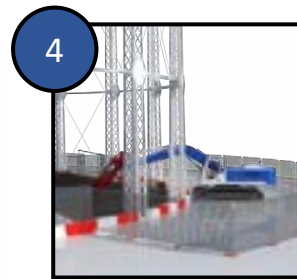


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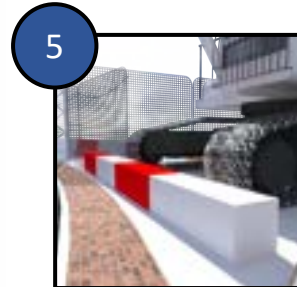




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Edge Protection

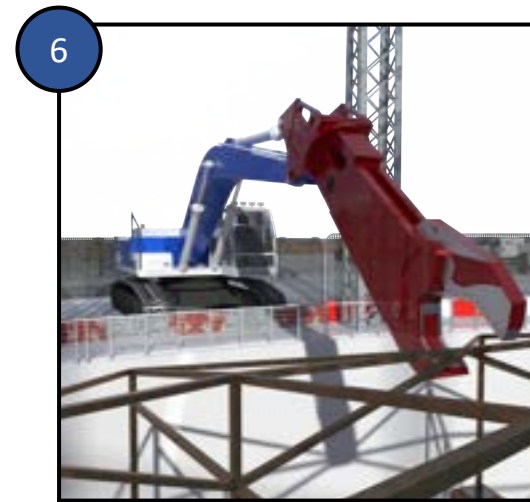
As fencing is opened to permit plant access it is to be extended and closed again behind to maintain edge protection



5

Stop Blocks

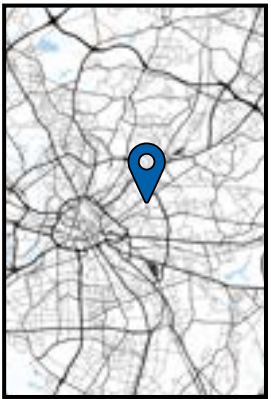
Heavy duty stop blocks will be used wherever plant is required to approach the edge of the holder's tank.



6

Partial Crown & Rest Removal

A demolition specification excavator equipped with a selector grab/shears will work from outside of the holder removing sections of the crown and rest structure from within the proposed ramp location in accordance with the demolition design.



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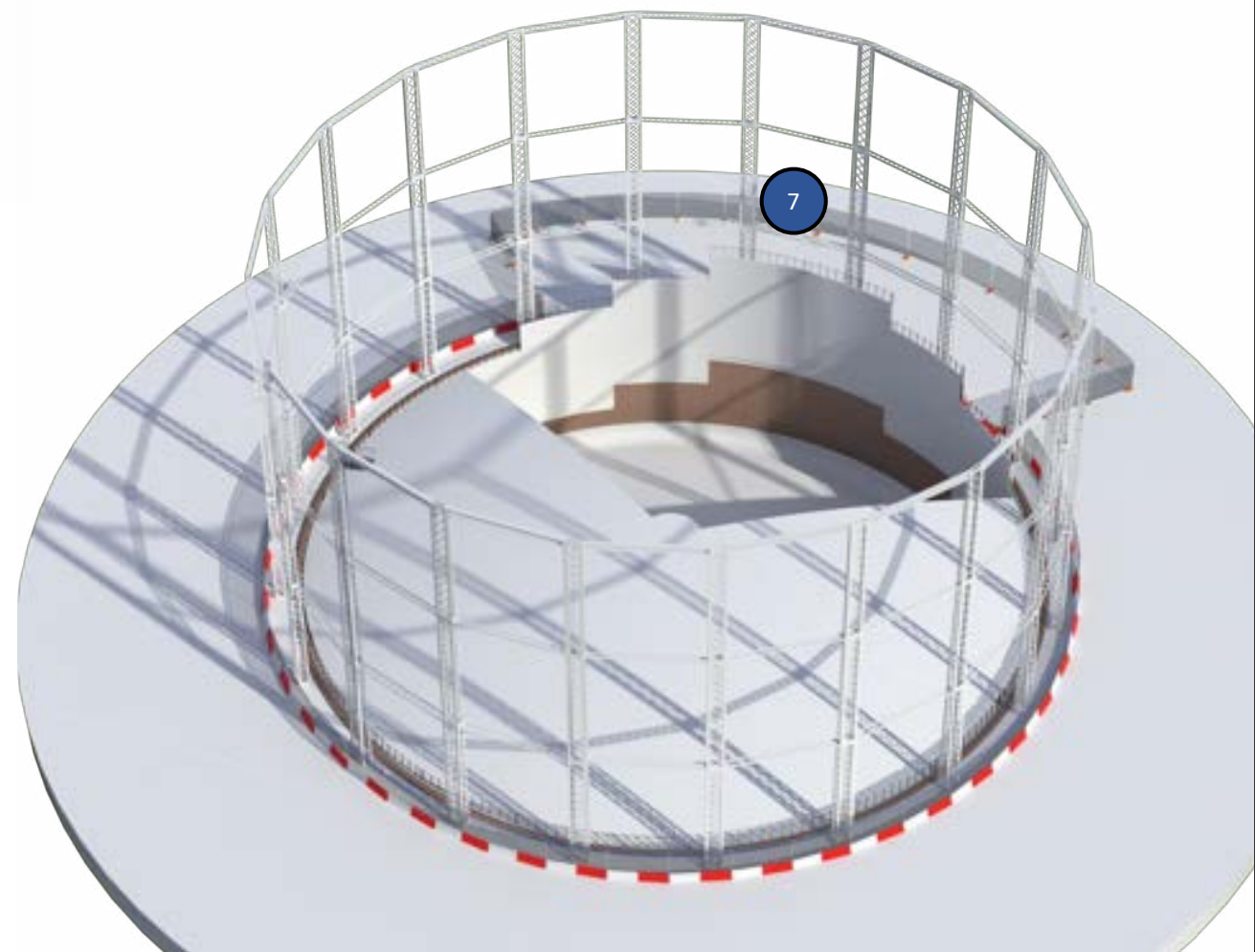
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Partial Lift Wall Removal

The lift walls present within the proposed ramp locations shall be removed. Sections will be sheared vertically by an excavator. The lift sections will then be removed concurrently with first the inner, and ending with the outer lift sections. Sludge contained within the cups shall be emptied into the annulus prior to the lifts being removed.



7

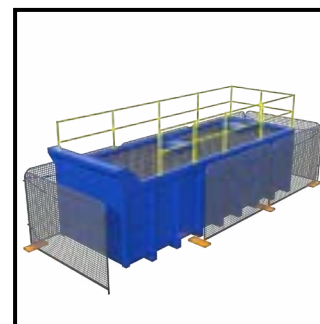


Desludging



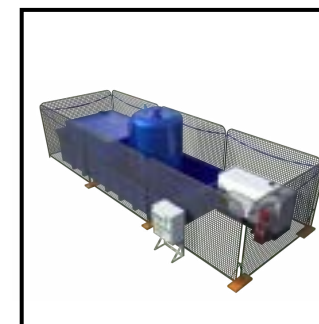
Extraction

The sludge is to be extracted from the holder tank by a Disab pump working around the tank's perimeter. Access holes will be cold cut through the remaining lifts so that the cups with can be desludged. The Disab will be banked into position, stop blocks shall be in place, and the area shall be fenced, and odours suppressed. The Disab's vacuum vents will be connected to activated granular charcoal modules to control VOCs.



AVC Dewatering

The sludge will be pumped from the Disab to AVC dewatering units. These units comprise a sealed 30 yard roll on/roll off skip with integrated dewatering screens. Polymer is pumped into the sludge, separating the water which passes through the internal screens. The unit is then removed with the dewatered sludge contained within.



Water Treatment

Water recovered from the sludge within the AVC filter units will be pumped to the water treatment plant. The water is to be sampled in a closed loop test to ensure that the treatment methodology is suitable, and the discharge criteria met prior to be discharged into the foul sewer. Weekly sampling shall be undertaken to ensure compliance.

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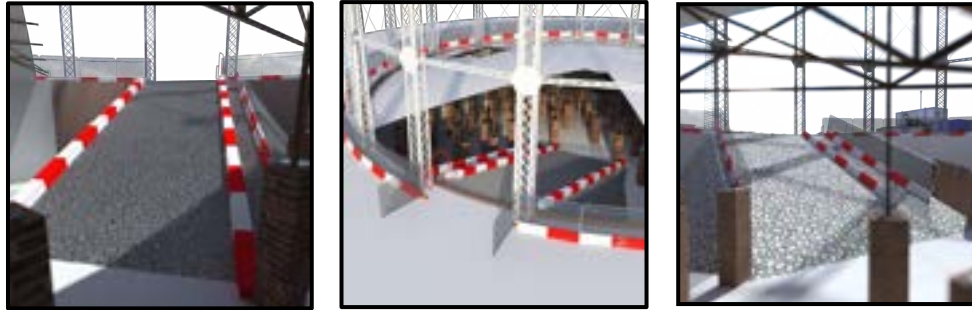
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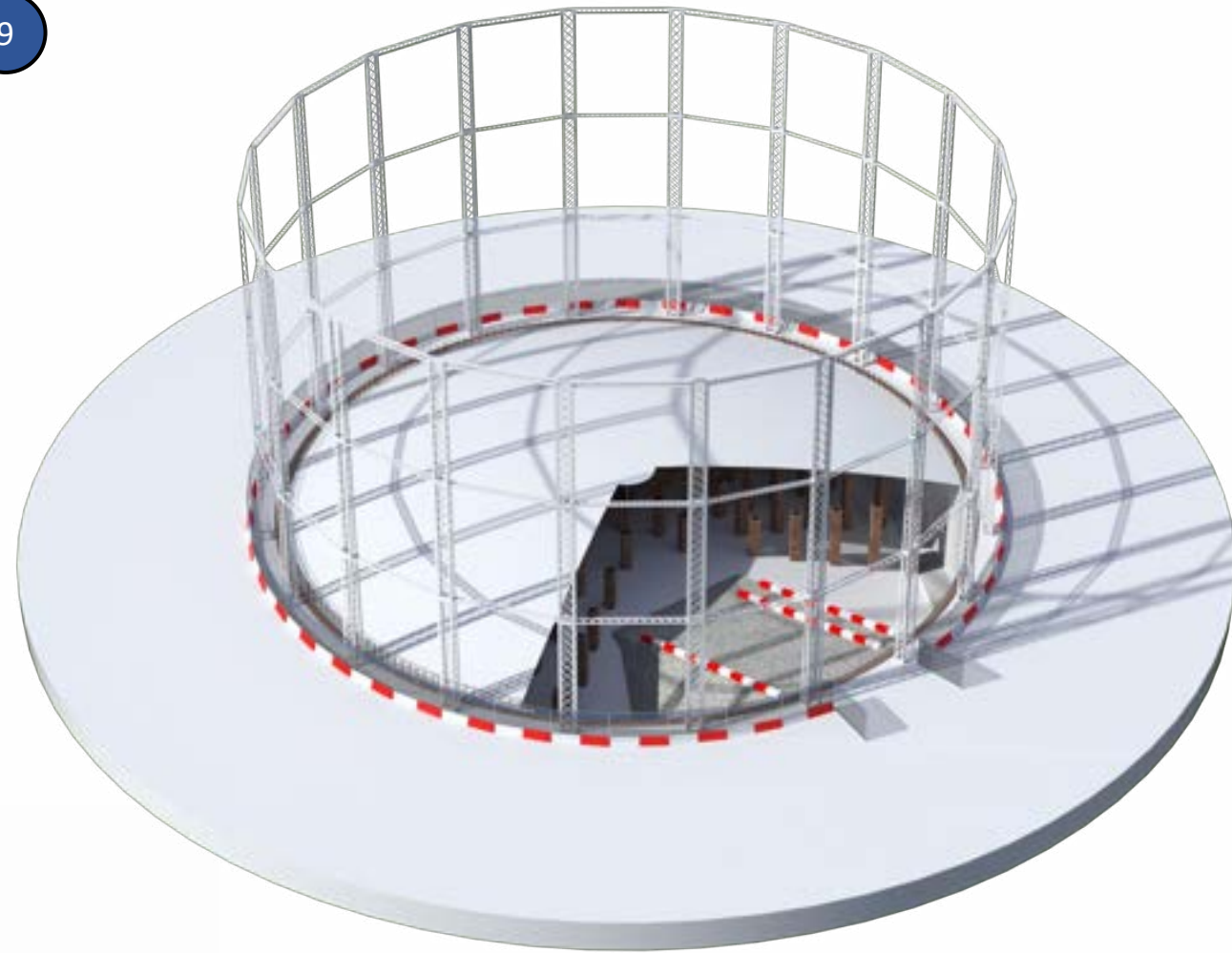
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A ramp from ground level to the dumpling is to be constructed from imported self compacting granular fill. The ramp is classed as temporary works and will be designed, recorded and inspected accordingly. Suitable geotechnical testing will be carried out prior to use to confirm suitability. Edge protection will be installed, and a separate pedestrian walkway will be established. When not in use the fencing shall be closed off to prevent unauthorised access to the gasholder's interior.


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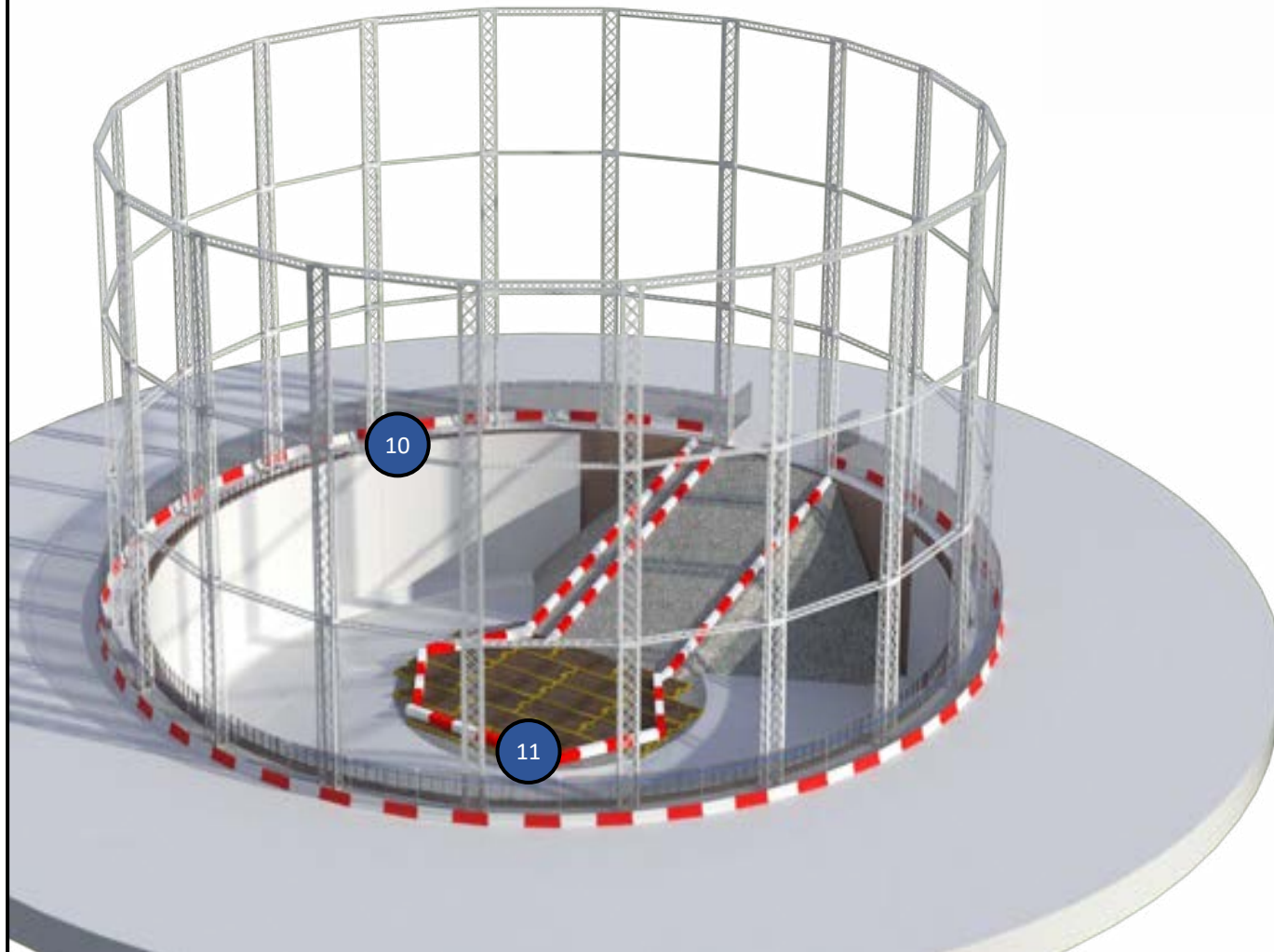
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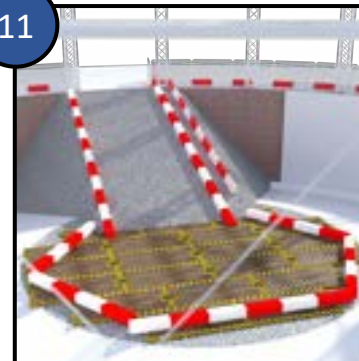


10


Crown & Rest Structure

A demolition specification excavator equipped with a shear will work from the newly constructed ramp removing sections of the crown and rest structure in accordance with the demolition design. Materials will be processed outside the holder and loaded into skips for off site recycling. The excavator shall work from the ramp inwards ensuring that it is never beneath the crown support structure.

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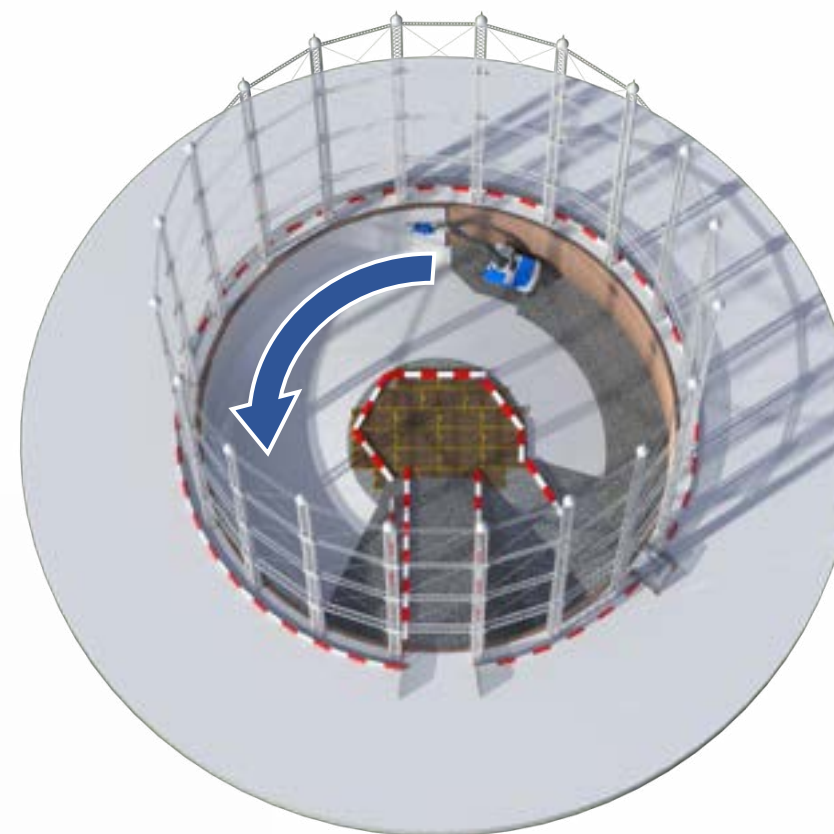
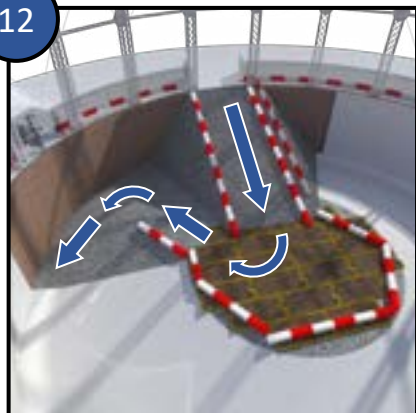

Dumpling Protection

Dependent upon the dumpling's condition and the nature of the plant to be used on it, it may be necessary to create a working surface over the dumpling's centre, either through the creation of an aggregate pad, bog mats, or both. Precise protection methods will be determined following a structural assessment. If timber mats are used these will be removed upon completion.

12

Annulus Access

A second ramp between the dumping and the annulus is to be designed and installed. Granular fill will be placed adjacent to the existing ramp. Compaction testing will be carried out prior to use to ascertain suitability. Edge protection will be installed as required. The access ramp will form part of, and be recorded and inspected under Temporary Works.



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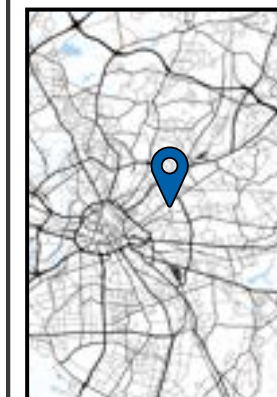
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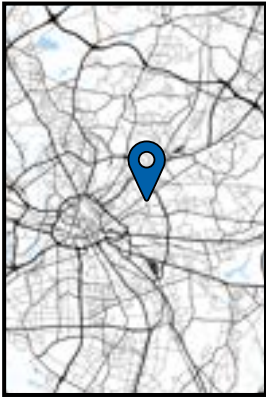
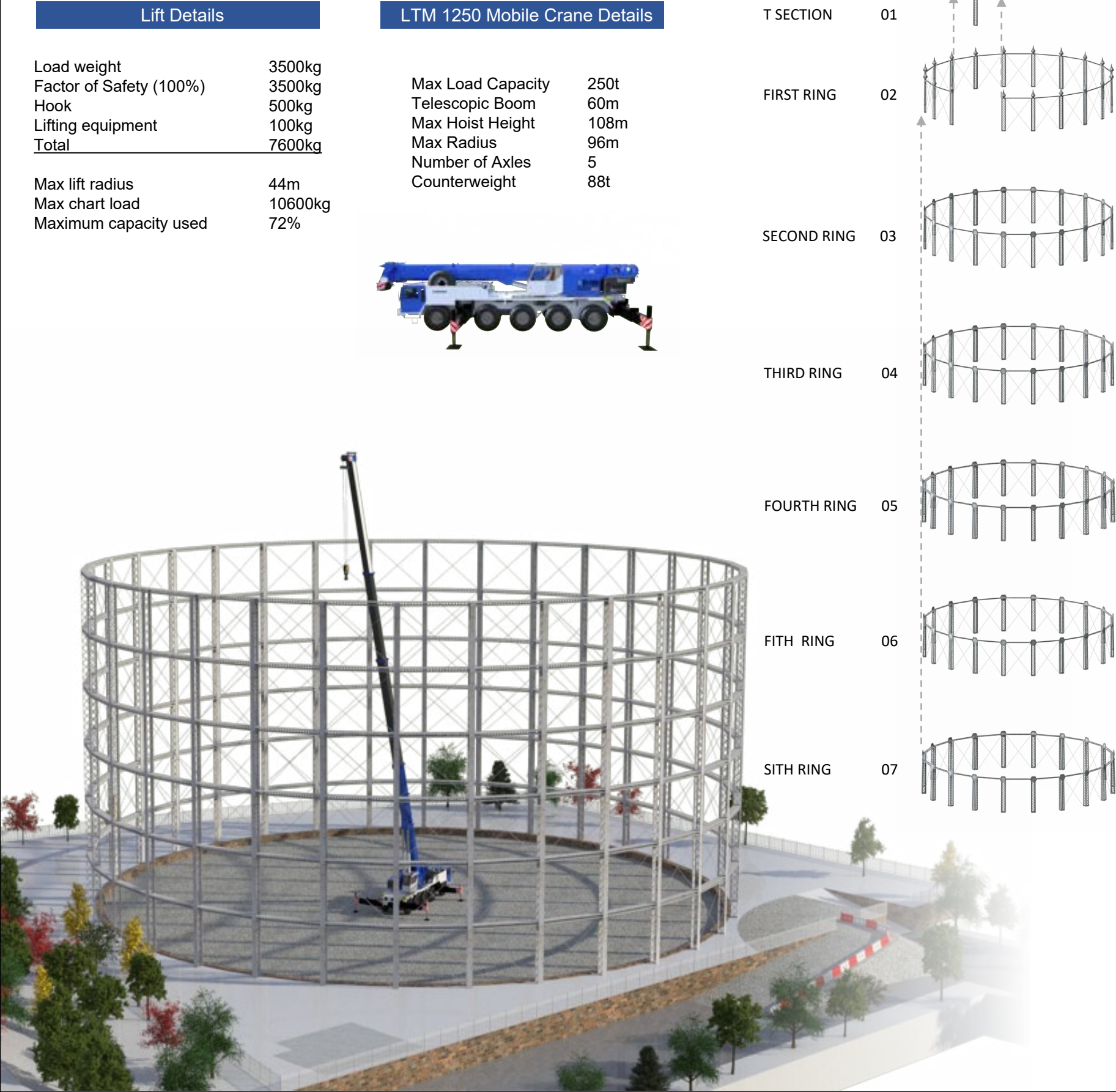
13

Lift Walls

A working platform is to be constructed within the annulus from imported material. This platform will provide adequate width for machine access into the annulus, as well as elevating the excavator so that it can reach the top of the lift sections requiring removal. As each lift section is sheared and removed the platform is to be extended around the annulus to the next lift. The excavator will continue in this fashion, extending its working platform to each section of lifts once the inner, middle, and outer lifts of the current section have been removed.



- 1. The guide frame will be dismantled using a combination of a MEWP and a mobile crane.
- 2. The MEWP will operate from inside the partially infilled holder
- 3. Hot cutting of the guide frame will only be carried out when wind speeds and direction are favourable.
- 4. Compaction testing is to be undertaken to ascertain the maximum ground baring pressure permissible.
- 5. Tag lines may be used to control the movement of loads whilst in the air.
- 6. All operations will be overseen by a competent lift supervisor and valid lifting plans must be in place, as well as hot works & lifting permits.
- 7. Slew restrictors will be used to geofence the working area and prevent over sailing.
- 8. A fenced exclusion area will be implemented around the works.
- 9. The crane will be sited internally, and the frame will be dismantled tier by tier.
- 10. Sections are to be slung from the MEWP by trained, harnessed personal.
- 11. The frame is constructed from RSJs with geodesic wind bracing.
- 12. Sections will be slung securely from the MEWP, and the load taken up. Hot cuts will then be made at the approximate mid point of the horizontal sections either side of the column to be removed creating a T lift. Wind bracing will likewise be cut at the midpoint between two columns and removed as part of the T section.
- 13. With the load taken up by the crane the burning cuts will be made to the base of the tier's column.
- 14. Sections will be lowered to the ground for removal to the processing area.
- 15. This does not constitute a lift plan. A qualified Appointed Person will assess each lift upon the award of the project.



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6. Infilling Methodology

01 CAPPING LAYER

A 0.5m capping layer will be placed, compacted, and graded off. This layer will be placed after the superstructure removal has been completed.

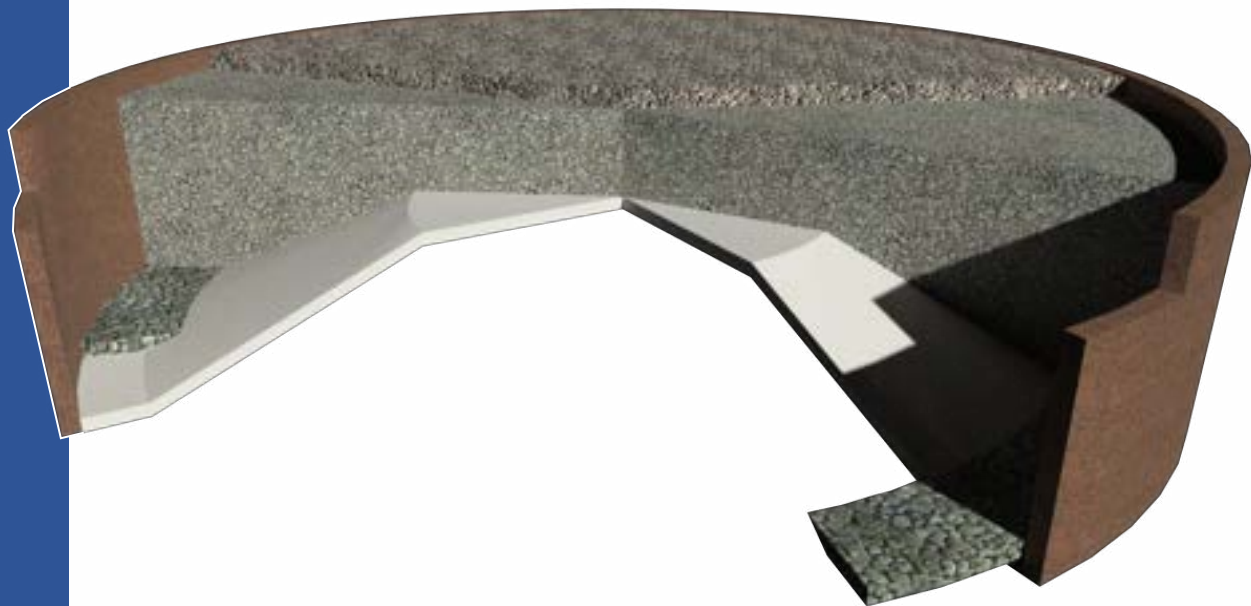
02 GENERAL FILL

General fill will be placed within the gasholder tank to 0.5m bgl. Layers will be placed and compacted according to specification.

03 STARTER LAYER

Dependent upon conditions a 6A or equivalent starter layer may be required.

ISOMETRIC SECTION VIEW
(Superstructure not shown for clarity)



Engineering Control

Layer thicknesses, placement, and numbering will be controlled by marking the infill design directly onto the holder wall with line marking paint. Each layer's thickness will be surveyed and checked before the commencement of the next.

Testing

Compaction and nuclear density testing will be carried out by an independent contractor at frequencies & locations identified within the specification.

Compaction

Compaction plant will be selected to suit the fill materials. Compaction will be carried out in accordance with the Gasholder Infilling Specification.



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7. Completion

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Grading

Any level differences will be graded off to a suitable batter.

17

Access ramp

The access ramp to the raised holder compound will be removed and used for infilling of the holder and siphon pit voids. The top of the retaining wall will be reinstated.

18

Pipework

Any holding down bolts, upstands etc. will be removed level with the surrounding ground conditions. The station bases will remain in situ.

19

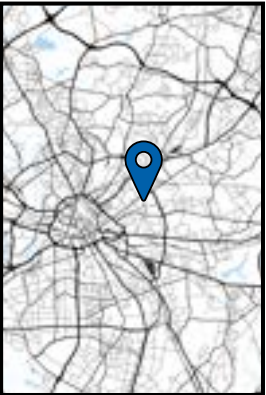
Trip Hazards

Any voids, pits, basements will be infilled as per specification.

20

Demobilisation

The welfare facilities will be removed, any significant differences in level are to be graded off, and the site is to be left in a safe and secure condition.



PROJECT:

NGPH GHD
Bradford Road

CLIENT:

nationalgrid

DRAWING
REFERENCE:

T22-1314
NGPH GHD
Bradford Road

Demolition
Management Plan



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